



Missouri Department of Natural Resources
Air Pollution Control Program

PERMIT TO OPERATE

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to operate the air contaminant source(s) described below, in accordance with the laws, rules, and conditions set forth here in.

Operating Permit Number:

Expiration Date:

Installation ID Number: 097-0110

Project Number: 2002-10-034

Installation Name and Address

Carthage Water & Electric Plant
Third and River Street
Carthage, MO 64836
Jasper County

Installation Description:

This installation is an electrical generating peaking plant that services the area of Carthage, Missouri. Electricity is generated from a combination of nine internal combustion engines. The engines are dual-fueled and normally combust approximately 95 % pipeline natural gas and 5 % fuel oil. The engines can also operate on only No. 2 fuel oil, when the natural gas is curtailed. The installation has the potential to emit PM₁₀, SO_x, NO_x, VOC and CO at major levels.

Effective Date

Director or Designee
Department of Natural Resources

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I. Installation Description and Equipment Listing

INSTALLATION DESCRIPTION

The installation is an electrical generating peaking plant that services the area of Carthage, Missouri. Electricity is generated from a combination of nine internal combustion engines. The engines are dual-fueled and normally combust approximately 95 % pipeline natural gas and 5 % fuel oil. The engines can also operate on only No. 2 fuel oil, when the natural gas is curtailed. The installation has the potential to emit PM₁₀, SO_x, NO_x, VOC and CO at major levels. The reported emissions for the previous five years are listed below.

Reported Air Pollutant Emissions, tons per year							
Year	Particulate Matter ≤ Ten Microns (PM-10)	Sulfur Oxides (SO _x)	Nitrogen Oxides (NO _x)	Volatile Organic Compounds (VOC)	Carbon Monoxide (CO)	Lead (Pb)	Hazardous Air Pollutants (HAPs)
1999	2.05	1.78	109.16	3.90	16.22	0.0	0.0
2000	3.50	3.19	133.94	5.49	10.92	0.0	0.0
2001	3.05	2.56	186.15	6.46	18.63	0.0	0.0
2002	1.67	1.37	110.39	3.82	11.29	0.0	0.0
2003	2.64	2.45	76.58	3.73	4.94	0.0	0.0

EMISSION UNITS WITH LIMITATIONS

The following list provides a description of the equipment at this installation which emit air pollutants and which are identified as having unit-specific emission limitations.

Emission Unit #	Description of Emission Unit
EU0010 – EU0070	Seven dual fueled reciprocating engine powered electrical generators
EU0080 – EU0090	Two dual fueled reciprocating engine powered electrical generators

EMISSION UNITS WITHOUT LIMITATIONS

The following list provides a description of the equipment that does not have unit specific limitations at the time of permit issuance.

Description of Emission Source	
E01	Two 15,000 gallon tanks, one lube oil, one cylinder oil, 1964
E02	Two 441,000 gallon No.2 fuel oil storage tanks, 1928 One 1,000,000 gallon No.2 fuel oil storage tank, 1973
E05	One 4,000 gallon No.2 fuel oil feed tank, 1971
E06	Engine #6, 489 gallon No.2 fuel oil day tank, 1946 Engine #7, 489 gallon No.2 fuel oil day tank, 1949 Engine #8, 391 gallon No.2 fuel oil day tank, 1952 Engine #9, 391 gallon No.2 fuel oil day tank, 1957 Engine #10, 252 gallon No.2 fuel oil day tank, 1965 Engine #11, 309 gallon No.2 fuel oil day tank, 1970 Engine #12, 309 gallon No.2 fuel oil day tank, 1971 Engine #11, 516 gallon No.2 fuel oil day tank, 1976 Engine #12, 516 gallon No.2 fuel oil day tank, 1976
E08	13 Modine space heaters, pipeline natural gas fueled, 3.68 MMBtu/hr, 1968

DOCUMENTS INCORPORATED BY REFERENCE

These documents have been incorporated by reference into this permit.

- 1) None.

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II. Plant Wide Emission Limitations

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements.

Permit Condition PW001

10 CSR 10-6.170

Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin

Emission Limitation:

- 1) The permittee shall not cause or allow to occur any handling, transporting or storing of any material; construction, repair, cleaning or demolition of a building or its appurtenances; construction or use of a road, driveway or open area; or operation of a commercial or industrial installation without applying reasonable measures as may be required to prevent, or in a manner which allows or may allow, fugitive particulate matter emissions to go beyond the premises of origin in quantities that the particulate matter may be found on surfaces beyond the property line or origin. The nature or origin of the particulate matter shall be determined to a reasonable degree of certainty by a technique proven to be accurate and approved by the director;
- 2) The permittee shall not cause nor allow to occur any fugitive particulate matter emissions to remain visible in the ambient air beyond the property line of origin.
- 3) Should it be determined that noncompliance has occurred, the director may require reasonable control measures as may be necessary.

Monitoring:

- 1) The permittee shall conduct inspections of its facilities sufficient to determine compliance with this regulation. At a minimum, the observer should be trained and knowledgeable about the effects on visibility of emissions caused by background contrast, ambient lighting, observer position relative to lighting, wind and the presence of uncombined water. If a violation of this regulation is discovered, the source shall undertake corrective action to eliminate the violation.
- 2) The following monitoring schedule must be maintained:
 - a) Observations shall be conducted when the permittee undertakes any activity which results in fugitive particulate matter emissions that have the potential to go beyond the property line of origin.
 - b) Otherwise observations must be made semi-annually (i.e., once per reporting period). Observations shall be conducted during the January – June reporting period and during the July – December reporting period.

Record Keeping:

A log must be maintained noting the following for all inspections:

- 1) Whether air emissions (except water vapor) remain visible in the ambient air beyond the property line of origin.
- 2) Whether the visible emissions were normal for the installation.
- 3) Equipment malfunctions that could cause an exceedance of 10 CSR 10-6.170.
- 4) Any violations of 10 CSR 10-6.170 and any corrective actions undertaken to correct the violation.

Attachment A contains a log including these record keeping requirements. This log, or an equivalent created by the permittee, must be used to certify compliance with this requirement.

Reporting:

The permittee shall report to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of this regulation.

III. Emission Unit Specific Emission Limitations

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements.

EU0010 through EU0090 Electric Generators

General Description:	Pipeline natural gas and No. 2 diesel oil dual-fueled, or No. 2 diesel oil fueled
Manufacturer/Model #:	Engine No. 6, Nordberg, 2.0 megawatt, 1946 (EU0010)
Manufacturer/Model #:	Engine No. 7, Nordberg, 2.2 megawatt, 1949 (EU0020)
Manufacturer/Model #:	Engine No. 8, Nordberg, 2.5 megawatt, 1952 (EU0030)
Manufacturer/Model #:	Engine No. 9, Nordberg, 4.0 megawatt, 1957 (EU0040)
Manufacturer/Model #:	Engine No. 10, Nordberg, 6.0 megawatt, 1965 (EU0050)
Manufacturer/Model #:	Engine No. 11, Nordberg, 3.5 megawatt, 1970 (EU0060)
Manufacturer/Model #:	Engine No. 12, Nordberg, 3.5 megawatt, 1971 (prior to 2/24/71) (EU0070)
Manufacturer/Model #:	Engine No. 13, Cooper, 5.5 megawatt, 1974 (EU0080)
Manufacturer/Model #:	Engine No. 14, Cooper, 5.5 megawatt, 1974 (EU0090)
EQ Reference # (Year):2002	EP E07

Permit Conditions (EU0010 through EU0090)-001 10 CSR 10-6.260

Restriction of Emissions of Sulfur Compounds

Operational Limitation:

- The engines shall be limited to burning pipeline grade natural gas and No. 2 fuel oil with a sulfur content of less than 0.5% by weight. The primary fuel shall be pipeline grade natural gas.
- For the alternate operating scenario, the engines combust No.2 fuel oil with a sulfur content of less than 0.5% by weight.

Emission Limitation:

- For any source existing on or before February 24, 1971; (EU0010 through EU0070)
 1. Emissions shall not contain more than two thousand parts per million by volume (2000 ppmv) of sulfur dioxide,
 2. Stack gasses shall not contain more than seventy milligrams (70 mg) per cubic meter of sulfuric acid or sulfur trioxide or any combination of those gases averaged on any consecutive three hour time period.
- For any source constructed after February 24, 1971; (EU0080 and EU0090)
 1. Emissions shall not contain more than five hundred parts per million by volume (500 ppmv) of sulfur dioxide,
 2. Stack gasses shall not contain more than thirty-five milligrams (35 mg) per cubic meter of sulfuric acid or sulfur trioxide or any combination of those gases averaged on any consecutive three hour time period.
- No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards. [10 CSR 10-6.260(4) & 10 CSR 10-6.010 Ambient Air Quality Standards]¹

¹ 10 CSR 10-6.260(4) is a state-only requirement

<u>Pollutant</u>	<u>Concentration by Volume</u>	<u>Remarks</u>
Sulfur Dioxide (SO ₂)	0.03 parts per million (ppm)	Annual arithmetic mean
	0.14 ppm (365 micrograms per cubic meter (µg/m ³))	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 µg/m ³)	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H ₂ S)	0.05 ppm (70 µg/m ³)	½-hour average not to be exceeded over 2 times per year
	0.03 ppm (42 µg/m ³)	½-hour average not to be exceeded over 2 times in any 5 consecutive days
Sulfuric Acid (H ₂ SO ₄)	10 µg/m ³	24-hour average not to be exceeded more than once in any 90 consecutive days
	30 µg/m ³	1-hour average not to be exceeded more than once in any 2 consecutive days

Monitoring/Record Keeping:

- Fuel oil receipts, showing the sulfur content by weight, shall be retained.
- These records shall be retained for five years and shall be made available immediately for inspection upon request from Department of Natural Resources' personnel.

Reporting:

- The permittee shall report to the APCP Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any deviation from or exceedance of any of the terms imposed by this regulation, or any malfunction which causes a deviation from or exceedance of this regulation.

IV. Core Permit Requirements

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements.

10 CSR 10-6.050, Start-up, Shutdown and Malfunction Conditions

- (a.) In the event of a malfunction, which results in excess emissions that exceed one hour, the permittee shall submit to the director within two business days in writing the following information:
- (1.) Name and location of installation;
 - (2.) Name and telephone number of person responsible for the installation;
 - (3.) Name of the person who first discovered the malfunction and precise time and date that the malfunction was discovered.
 - (4.) Identity of the equipment causing the excess emissions;
 - (5.) Time and duration of the period of excess emissions;
 - (6.) Cause of the excess emissions;
 - (7.) Air pollutants involved;
 - (8.) Best estimate of the magnitude of the excess emissions expressed in the units of the applicable requirement and the operating data and calculations used in estimating the magnitude;
 - (9.) Measures taken to mitigate the extent and duration of the excess emissions; and
 - (10.) Measures taken to remedy the situation that caused the excess emissions and the measures taken or planned to prevent the recurrence of these situations.
- (b.) The permittee shall submit the paragraph (a.) information list to the director in writing at least ten days prior to any maintenance, start-up or shutdown, which is expected to cause an excessive release of emissions that exceed one hour. If notice of the event cannot be given ten days prior to the planned occurrence, it shall be given as soon as practicable prior to the release. If an unplanned excess release of emissions exceeding one hour occurs during maintenance, start-up or shutdown, the director shall be notified verbally as soon as practical during normal working hours and no later than the close of business of the following working day. A written notice shall follow within ten working days.
- (c.) Upon receipt of a notice of excess emissions issued by an agency holding a certificate of authority under section 643.140, RSMo, the permittee may provide information showing that the excess emissions were the consequence of a malfunction, start-up or shutdown. The information, at a minimum, should be the paragraph (a.) list and shall be submitted not later than 15 days after receipt of the notice of excess emissions. Based upon information submitted by the permittee or any other pertinent information available, the director or the commission shall make a determination whether the excess emissions constitute a malfunction, start-up or shutdown and whether the nature, extent and duration of the excess emissions warrant enforcement action under section 643.080 or 643.151, RSMo.
- (d.) Nothing in this rule shall be construed to limit the authority of the director or commission to take appropriate action, under sections 643.080, 643.090 and 643.151, RSMo to enforce the provisions of the Air Conservation Law and the corresponding rule.
- (e.) Compliance with this rule does not automatically absolve the permittee of liability for the excess emissions reported.

10 CSR 10-6.065, Operating Permits

The permittee shall file for renewal of this operating permit no sooner than eighteen months, nor later than six months, prior to the expiration date of this operating permit. The permittee shall retain the most current operating permit issued to this installation on-site and shall immediately make such permit available to any Missouri Department of Natural Resources' personnel upon request.

10 CSR 10-6.110, Submission of Emission Data, Emission Fees and Process Information

- (a.) The permittee shall complete and submit an Emission Inventory Questionnaire (EIQ) in accordance with the requirements outlined in this rule.
- (b.) The permittee shall pay an annual emission fee per ton of regulated air pollutant emitted according to the schedule in the rule. This fee is an emission fee assessed under authority of RSMo. 643.079 to satisfy the requirements of the Federal Clean Air Act, Title V.
- (c.) The fees shall be due April 1 each year for emissions produced during the previous calendar year. The fees shall be payable to the Department of Natural Resources and shall be accompanied by the Emissions Inventory Questionnaire (EIQ) form or equivalent approved by the director.

10 CSR 10-6.130, Controlling Emissions During Episodes of High Air Pollution Potential

This rule specifies the conditions that establish an air pollution alert (yellow/orange/red/purple), or emergency (maroon) and the associated procedures and emission reduction objectives for dealing with each. The permittee shall submit an appropriate emergency plan if required by the Director.

10 CSR 10-6.150, Circumvention

The permittee shall not cause or permit the installation or use of any device or any other means which, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an emission or air contaminant which violates a rule of the Missouri Air Conservation Commission.

10 CSR 10-6.180, Measurement of Emissions of Air Contaminants

- (a.) The director may require any person responsible for the source of emission of air contaminants to make or have made tests to determine the quantity or nature, or both, of emission of air contaminants from the source. The director may specify testing methods to be used in accordance with good professional practice. The director may observe the testing. All tests shall be performed by qualified personnel.
- (b.) The director may conduct tests of emissions of air contaminants from any source. Upon request of the director, the person responsible for the source to be tested shall provide necessary ports in stacks or ducts and other safe and proper sampling and testing facilities, exclusive of instruments and sensing devices as may be necessary for proper determination of the emission of air contaminants.
- (c.) The director shall be given a copy of the test results in writing and signed by the person responsible for the tests.

10 CSR 10-3.030, Open Burning Restrictions

- (a.) The permittee shall not conduct, cause, permit or allow a salvage operation, the disposal of trade wastes or burning of refuse by open burning.
- (b.) Exception - Open burning of trade waste or vegetation may be permitted only when it can be shown that open burning is the only feasible method of disposal or an emergency exists which requires open burning.
- (c.) Any person intending to engage in open burning shall file a request to do so with the director. The request shall include the following:
 - (1.) The name, address and telephone number of the person submitting the application; The type of business or activity involved; A description of the proposed equipment and operating practices, the type, quantity and composition of trade wastes and expected composition and amount of air contaminants to be released to the atmosphere where known;
 - (2.) The schedule of burning operations;
 - (3.) The exact location where open burning will be used to dispose of the trade wastes;
 - (4.) Reasons why no method other than open burning is feasible; and
 - (5.) Evidence that the proposed open burning has been approved by the fire control authority which has jurisdiction.

- (d.) Upon approval of the open burning permit application by the director, the person may proceed with the operation under the terms of the open burning permit. Be aware that such approval shall not exempt Carthage Water and Electric Plant from the provisions of any other law, ordinance or regulation.
- (e.) The permittee shall maintain files with letters from the director approving the open burning operation and previous DNR inspection reports.

10 CSR 10-3.090, Restriction of Emission of Odors

No person may cause, permit or allow the emission of odorous matter in concentrations and frequencies or for durations that odor can be perceived when one volume of odorous air is diluted with seven volumes of odor-free air for two separate trials not less than 15 minutes apart within the period of one hour.

This requirement is not federally enforceable.

10 CSR 10-6.100, Alternate Emission Limits

Proposals for alternate emission limitations shall be submitted on Alternate Emission Limits Permit forms provided by the department. An installation owner or operator must obtain an Alternate Emission Limits Permit in accordance with 10 CSR 10-6.100 before alternate emission limits may become effective.

10 CSR 10-6.080, Emission Standards for Hazardous Air Pollutants

40 CFR Part 61 Subpart M, National Emission Standard for Asbestos

- (a) The permittee shall follow the procedures and requirements of 40 CFR Part 61, Subpart M for any activities occurring at this installation which would be subject to provisions for 40 CFR Part 61, Subpart M, National Emission Standard for Asbestos.
- (b) The permittee shall conduct monitoring to demonstrate compliance with registration, certification, notification, and Abatement Procedures and Practices standards as specified in 40 CFR Part 61, Subpart M.

10 CSR 10-6.250, Asbestos Abatement Projects – Certification, Accreditation, and Business Exemption Requirements

The permittee shall conduct all asbestos abatement projects within the procedures established for certification and accreditation by 10 CSR 10-6.250. This rule requires individuals who work in asbestos abatement projects to be certified by the Missouri Department of Natural Resources Air Pollution Control Program. This rule requires training providers who offer training for asbestos abatement occupations to be accredited by the Missouri Department of Natural Resources Air Pollution Control Program. This rule requires persons who hold exemption status from certain requirements of this rule to allow the department to monitor training provided to employees. Each individual who works in asbestos abatement projects must first obtain certification for the appropriate occupation from the department. Each person who offers training for asbestos abatement occupations must first obtain accreditation from the department. Certain business entities that meet the requirements for state-approved exemption status must allow the department to monitor training classes provided to employees who perform asbestos abatement.

Title VI – 40 CFR Part 82, Protection of Stratospheric Ozone

- (a.) The permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:
 - (1.) All containers in which a class I or class II substance is stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to §82.106.
 - (2.) The placement of the required warning statement must comply with the requirements pursuant to §82.108.

- (3.) The form of the label bearing the required warning statement must comply with the requirements pursuant to §82.110.
- (4.) No person may modify, remove, or interfere with the required warning statement except as described in §82.112.
- (b.) The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR part 82, Subpart F, except as provided for motor vehicle air conditioners (MVACs) in Subpart B:
 - (1.) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156.
 - (2.) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158.
 - (3.) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.
 - (4.) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record keeping requirements pursuant to §82.166. ("MVAC-like" appliance as defined at §82.152).
 - (5.) Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to §82.156.
 - (6.) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.
- (c.) If the permittee manufactures, transforms, imports, or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR part 82, Subpart A, Production and Consumption Controls.
- (d.) If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant.

The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR part 82, Subpart G, Significant New Alternatives Policy Program. *Federal Only - 40 CFR part 82*

10 CSR 10-6.280, Compliance Monitoring Usage

- a) The permittee is not prohibited from using the following in addition to any specified compliance methods for the purpose of submission of compliance certificates:
 - 1) Monitoring methods outlined in 40 CFR Part 64;
 - 2) Monitoring method(s) approved for the permittee pursuant to 10 CSR 10-6.065, "Operating Permits", and incorporated into an operating permit; and
 - 3) Any other monitoring methods approved by the director.
- b) Any credible evidence may be used for the purpose of establishing whether a permittee has violated or is in violation of any such plan or other applicable requirement. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred by a permittee:
 - 1) Monitoring methods outlined in 40 CFR Part 64;
 - 2) A monitoring method approved for the permittee pursuant to 10 CSR 10-6.065, "Operating Permits", and incorporated into an operating permit; and
 - 3) Compliance test methods specified in the rule cited as the authority for the emission limitations.
- c) The following testing, monitoring or information gathering methods are presumptively credible testing, monitoring, or information gathering methods:

- 1) Applicable monitoring or testing methods, cited in:
 - 10 CSR 10-6.030, "Sampling Methods for Air Pollution Sources";
 - 10 CSR 10-6.040, "Reference Methods";
 - 10 CSR 10-6.070, "New Source Performance Standards";
 - 10 CSR 10-6.080, "Emission Standards for Hazardous Air Pollutants"; or
- 2) Other testing, monitoring, or information gathering methods, if approved by the director, that produce information comparable to that produced by any method listed above.

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V. General Permit Requirements

Permit Duration

10 CSR 10-6.065(6)(C)1.B.

This permit is issued for a term of five years, commencing on the date of issuance. This permit will expire at the end of this period unless renewed.

General Record Keeping and Reporting Requirements

10 CSR 10-6.065(6)(C)1.C

I) Record Keeping

- A) All required monitoring data and support information shall be retained for a period of at least five years from the date of the monitoring sample, measurement, report or application.
- B) Copies of all current operating and construction permits issued to this installation shall be kept on-site for as long as the permits are in effect. Copies of these permits shall be made immediately available to any Missouri Department of Natural Resources' personnel upon request.

II) Reporting

- A) The permittee shall submit a report of all required monitoring by:
 - 1) October 1st for monitoring which covers the January through June time period, and
 - 2) April 1st for monitoring which covers the July through December time period.
 - 3) Exception: Monitoring requirements which require reporting more frequently than semi annually shall report no later than 30 days after the end of the calendar quarter in which the measurements were taken.
- B) Each report must identify any deviations from emission limitations, monitoring, record keeping, reporting, or any other requirements of the permit, this includes deviations or Part 64 exceedances.
- C) All reports shall be submitted to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102.
- D) Submit supplemental reports as required or as needed. Supplemental reports are required no later than ten days after any exceedance of any applicable rule, regulation or other restriction. All reports of deviations shall identify the cause or probable cause of the deviations and any corrective actions or preventative measures taken.
 - 1) Notice of any deviation resulting from an emergency (or upset) condition as defined in paragraph (6)(C)7 of 10 CSR 10-6.065 (Emergency Provisions) shall be submitted to the permitting authority either verbally or in writing within two working days after the date on which the emission limitation is exceeded due to the emergency, if you wish to assert an affirmative defense. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that indicate an emergency occurred and that you can identify the cause(s) of the emergency. The permitted installation must show that it was operated properly at the time and that during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or requirements in the permit. The notice must contain a description of the emergency, the steps taken to mitigate emissions, and the corrective actions taken.
 - 2) Any deviation that poses an imminent and substantial danger to public health, safety or the environment shall be reported as soon as practicable.
 - 3) Any other deviations identified in the permit as requiring more frequent reporting than the permittee's semiannual report shall be reported on the schedule specified in the permit.
 - 4) These supplemental reports shall be submitted to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after any exceedance of any applicable rule, regulation, or other restriction.

- E) Every report submitted shall be certified by the responsible official, except that, if a report of a deviation must be submitted within ten days after the deviation, the report may be submitted without a certification if the report is resubmitted with an appropriate certification within ten days after that, together with any corrected or supplemental information required concerning the deviation.
- F) The permittee may request confidential treatment of information submitted in any report of deviation.

Risk Management Plans Under Section 112(r)

10 CSR 10-6.065(6)(C)1.D.

The permittee shall comply with the requirements of 40 CFR Part 68, Accidental Release Prevention Requirements. If the permittee has more than a threshold quantity of a regulated substance in process, as determined by 40 CFR Section 68.115, the permittee shall submit a Risk Management Plan in accordance with 40 CFR Part 68 no later than the latest of the following dates:

- 1) June 21, 1999;
- 2) Three years after the date on which a regulated substance is first listed under 40 CFR Section 68.130; or
- 3) The date on which a regulated substance is first present above a threshold quantity in a process.

Severability Clause

10 CSR 10-6.065(6)(C)1.F.

In the event of a successful challenge to any part of this permit, all uncontested permit conditions shall continue to be in force. All terms and conditions of this permit remain in effect pending any administrative or judicial challenge to any portion of the permit. If any provision of this permit is invalidated, the permittee shall comply with all other provisions of the permit.

General Requirements

10 CSR 10-6.065(6)(C)1.G

- 1) The permittee must comply with all of the terms and conditions of this permit. Any noncompliance with a permit condition constitutes a violation and is grounds for enforcement action, permit termination, permit revocation and re-issuance, permit modification or denial of a permit renewal application.
- 2) The permittee may not use as a defense in an enforcement action that it would have been necessary for the permittee to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.
- 3) The permit may be modified, revoked, reopened, reissued or terminated for cause. Except as provided for minor permit modifications, the filing of an application or request for a permit modification, revocation and re-issuance, or termination, or the filing of a notification of planned changes or anticipated noncompliance, will not stay any permit condition.
- 4) This permit does not convey any property rights of any sort, nor grant any exclusive privilege.
- 5) The permittee shall furnish to the Air Pollution Control Program, upon receipt of a written request and within a reasonable time, any information that the Air Pollution Control Program reasonably may require to determine whether cause exists for modifying, reopening, reissuing or revoking the permit or to determine compliance with the permit. Upon request, the permittee also shall furnish to the Air Pollution Control Program copies of records required to be kept by the permittee. The permittee may make a claim of confidentiality for any information or records submitted pursuant to 10 CSR 10-6.065(6)(C)1.

Incentive Programs Not Requiring Permit Revisions

10 CSR 10-6.065(6)(C)1.H.

No permit revision will be required for any installation changes made under any approved economic incentive, marketable permit, emissions trading, or other similar programs or processes provided for in this permit.

Reasonably Anticipated Operating Scenarios

10 CSR 10-6.065(6)(C)1.I.

Carthage Water and Electric intends to operate the generator engines on No.2 fuel oil only, whenever there is a curtailment of pipeline natural gas.

Title IV Allowances

Not applicable

Emissions Trading

10 CSR 10-6.065(6)(C)1.J.

None requested

Compliance Requirements

10 CSR 10-6.065(6)(C)3.

- I) Any document (including reports) required to be submitted under this permit shall contain a certification signed by the responsible official.
- II) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized officials of the Missouri Department of Natural Resources, or their authorized agents, to perform the following (subject to the installation's right to seek confidential treatment of information submitted to, or obtained by, the Air Pollution Control Program):
 - A) Enter upon the premises where a permitted installation is located or an emissions-related activity is conducted, or where records must be kept under the conditions of this permit;
 - B) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 - C) Inspect, at reasonable times and using reasonable safety practices, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
 - D) As authorized by the Missouri Air Conservation Law, Chapter 643, RSMo or the Act, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the terms of this permit, and all applicable requirements as outlined in this permit.
- III) All progress reports required under an applicable schedule of compliance shall be submitted semiannually (or more frequently if specified in the applicable requirement). These progress reports shall contain the following:
 - A) Dates for achieving the activities, milestones or compliance required in the schedule of compliance, and dates when these activities, milestones or compliance were achieved, and
 - B) An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measures adopted.
- IV) The permittee shall submit an annual certification that it is in compliance with all of the federally enforceable terms and conditions contained in this permit, including emissions limitations, standards, or work practices. These certifications shall be submitted annually by April 1st, unless the applicable requirement specifies more frequent submission. These certifications shall be submitted to EPA Region VII, 901 North 5th Street, Kansas City, Kansas 66101, as well as the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102. All deviations and Part 64 exceedances and

excursions must be included in the compliance certifications. The compliance certification shall include the following:

- A) The identification of each term or condition of the permit that is the basis of the certification,
- B) The current compliance status, as shown by monitoring data and other information reasonably available to the installation,
- C) Whether compliance was continuous or intermittent,
- D) The method(s) used for determining the compliance status of the installation, both currently and over the reporting period, and
- E) Such other facts as the Air Pollution Control Program will require in order to determine the compliance status of this installation.

Permit Shield

10 CSR 10-6.065(6)(C)6.

- I) Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements as of the date that this permit is issued, provided that:
 - A) The applicable requirements are included and specifically identified in this permit; or
 - B) The permitting authority, in acting on the permit revision or permit application, determines in writing that other requirements, as specifically identified in the permit, are not applicable to the installation, and this permit expressly includes that determination or a concise summary of it.
- II) Be aware that there are exceptions to this permit protection. The permit shield does not affect the following:
 - A) The provisions of section 303 of the Act or section 643.090, RSMo concerning emergency orders,
 - B) Liability for any violation of an applicable requirement which occurred prior to, or was existing at, the time of permit issuance,
 - C) The applicable requirements of the acid rain program,
 - D) The administrator's authority to obtain information, or
 - E) Any other permit or extra-permit provisions, terms or conditions expressly excluded from the permit shield provisions.

Emergency Provisions

10 CSR 10-6.065(6)(C)7.

- I) An emergency or upset as defined in 10 CSR 10-6.065(6)(C)7. shall constitute an affirmative defense to an enforcement action brought for noncompliance with technology-based emissions limitations. To establish an emergency- or upset-based defense, the permittee must demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence, the following:
 - A) That an emergency or upset occurred and that the permittee can identify the source of the emergency or upset,
 - B) That the installation was being operated properly,
 - C) That the permittee took all reasonable steps to minimize emissions that exceeded technology-based emissions limitations or requirements in this permit, and
 - D) That the permittee submitted notice of the emergency to the Air Pollution Control Program within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and any corrective actions taken.
- II) Be aware that an emergency or upset shall not include noncompliance caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

Operational Flexibility

10 CSR 10-6.065(6)(C)8.

An installation that has been issued a Part 70 operating permit is not required to apply for or obtain a permit revision in order to make any of the changes to the permitted installation described below if the changes are not Title I modifications, the changes do not cause emissions to exceed emissions allowable under the permit, and the changes do not result in the emission of any air contaminant not previously emitted. The permittee shall notify the Air Pollution Control Program and the Administrator at least seven days in advance of these changes, except as allowed for emergency or upset conditions. Emissions allowable under the permit means a federally enforceable permit term or condition determined at issuance to be required by an applicable requirement that established an emissions limit (including a work practice standard) or a federally enforceable emissions cap that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject.

- I) Section 502(b)(10) changes. Changes that, under section 502(b)(10) of the Act, contravene an express permit term may be made without a permit revision, except for changes that would violate applicable requirements of the Act or contravene federally enforceable monitoring (including test methods), record keeping, reporting or compliance requirements of the permit.
 - A) Before making a change under this provision, The permittee shall provide advance written notice to the Air Pollution Control Program and to the Administrator, describing the changes to be made, the date on which the change will occur, and any changes in emission and any permit terms and conditions that are affected. The permittee shall maintain a copy of the notice with the permit, and this agency shall place a copy with the permit in the public file. Written notice shall be provided to the administrator and this agency at least seven days before the change is to be made. If less than seven days notice is provided because of a need to respond more quickly to these unanticipated conditions, The permittee shall provide notice to the administrator and the permitting authority as soon as possible after learning of the need to make the change.
 - B) The permit shield shall not apply to these changes.

Off-Permit Changes

10 CSR 10-6.065(6)(C)9.

- I) Except as noted below, The permittee may make any change in its permitted operations, activities or emissions that is not addressed in, constrained by or prohibited by this permit without obtaining a permit revision. Insignificant activities listed in the application, but not otherwise addressed in or prohibited by this permit, shall not be considered to be constrained by this permit for purposes of the off-permit provisions of this section. Off-permit changes shall be subject to the following requirements and restrictions:
 - A) The change must meet all applicable requirements of the Act and may not violate any existing permit term or condition; The permittee may not change a permitted installation without a permit revision, if this change is subject to any requirements under Title IV of the Act or is a Title I modification;
 - B) The permittee must provide written notice of the change to the permitting authority and to the administrator no later than the next annual emissions report. This notice shall not be required for changes that are insignificant activities under paragraph (6)(B)3. of this rule. This written notice shall describe each change, including the date, any change in emissions, pollutants emitted and any applicable requirement that would apply as a result of the change.
 - C) The permittee shall keep a record describing all changes made at the installation that result in emissions of a regulated air pollutant subject to an applicable requirement and the emissions resulting from these changes; and
 - D) The permit shield shall not apply to these changes.

Responsible Official

10 CSR 10-6.020(2)(R)12.

The application utilized in the preparation of this was signed by Robert E. Williams, General Manager. If this person terminates employment, or is reassigned different duties such that a different person becomes the responsible person to represent and bind the installation in environmental permitting affairs, the owner or operator of this air contaminant source shall notify the Director of the Air Pollution Control Program of the change. Said notification shall be in writing and shall be submitted within 30 days of the change. The notification shall include the name and title of the new person assigned by the source owner or operator to represent and bind the installation in environmental permitting affairs. All representations, agreement to terms and conditions and covenants made by the former responsible person that were used in the establishment of limiting permit conditions on this permit will continue to be binding on the installation until such time that a revision to this permit is obtained that would change said representations, agreements and covenants.

Reopening Permit For Cause

10 CSR 10-6.065(6)(E)6.

In accordance with 10 CSR 10-6.065(6)(E)6.A., this permit may be reopened with cause if:

- 1) The Missouri Department of Natural Resources (MDNR) receives notice from the Environmental Protection Agency (EPA) that a petition for disapproval of a permit pursuant to 40 CFR § 70.8(d) has been granted, provided that the reopening may be stayed pending judicial review of that determination,
- 2) The Missouri Department of Natural Resources or EPA determines that the permit contains a material mistake or that inaccurate statements were made which resulted in establishing the emissions limitation standards or other terms of the permit,
- 3) Additional applicable requirements under the Act become applicable to the installation; however, reopening on this ground is not required if the permit has a remaining term of less than three years, the effective date of the requirement is later than the date on which the permit is due to expire, or the additional applicable requirements are implemented in a general permit that is applicable to the installation and the installation receives authorization for coverage under that general permit,
- 4) The installation is an affected source under the acid rain program and additional requirements (including excess emissions requirements), become applicable to that source, provided that, upon approval by EPA, excess emissions offset plans shall be deemed to be incorporated into the permit; or
- 5) The Missouri Department of Natural Resources or EPA determines that the permit must be reopened and revised to assure compliance with applicable requirements.

Statement of Basis

10 CSR 10-6.065(6)(E)1.C.

This permit is accompanied by a statement setting forth the legal and factual basis for the draft permit conditions (including references to applicable statutory or regulatory provisions). This Statement of Basis, while referenced by the permit, is not an actual part of the permit.

Attachment A

Fugitive Emission Observations

[illegible]

STATEMENT OF BASIS

Permit Reference Documents

These documents were relied upon in the preparation of the operating permit. Because they are not incorporated by reference, they are not an official part of the operating permit.

- 1) Part 70 Operating Permit Application, received October 2, 2002;
- 2) 2003 Emissions Inventory Questionnaire, received January 30, 2004;
- 3) U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*; Volume I, Stationary Point and Area Sources, Fifth Edition.

Applicable Requirements Included in the Operating Permit but Not in the Application or Previous Operating Permits

In the operating permit application, the installation indicated they were not subject to the following regulation(s). However, in the review of the application, the agency has determined that the installation is subject to the following regulation(s) for the reasons stated.

10 CSR 10-6.180, *Measurement of Emissions of Air Contaminants*,

This rule has been included in the operating permit in order to provide citing for the allowance of requests for emissions data results. On past forms issued by the Air Pollution Control Program, including the application for this permit, it was automatically marked as an administrative rule not required to be listed as an applicable requirement. It is no longer judged to be solely administrative and is, therefore, included in the operating permit.

Other Air Regulations Determined Not to Apply to the Operating Permit

The Air Pollution Control Program (APCP) has determined the following requirements to not be applicable to this installation at this time for the reasons stated.

The 13 Modine space heaters emit only combustion products, produce less than 150 pounds per day of any air contaminant and have a maximum rated capacity of less than one million Btus per hour. They would not be expected to ever exceed the opacity limit of 10 CSR 10-6.220 or the sulfur limits of 10 CSR 10-6.260. Therefore, the space heaters are not listed as emission units with limitations in the permit.

10 CSR 10-6.220, *Restriction of Emissions of Visible Air Contaminants*

This rule is not applicable to internal combustion engines outside the Kansas City or St. Louis metropolitan areas. Because of this exception, and that the possibility of visible emissions from the storage tanks is so slight, the rule was not placed into the permit.

10 CSR 10-6.350, *Emission Limitation and Emissions Trading of Oxides of Nitrogen*

This rule is not applicable to the engines at the Carthage Water and Electric Plant because none of the engines serve a generator with a nameplate capacity of greater than 25 megawatts

10 CSR 10-6.400, *Restriction of Emission of Particulate Matter From Industrial Processes*

This rule defines process weight as the total weight of all materials, including solid fuels, introduced into an emission unit, which may cause any emission of particulate matter, but excluding liquids and gases used solely as fuels and air introduced for purposes of combustion. Therefore, because there is no process weight, the rule is not applicable to the generator engines and it was not placed into the permit.

Construction Permit Revisions

None.

NSPS Applicability

40 CFR part 60, subpart K, *Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, reconstruction, or Modification Commenced After June 11, 1973 and Prior to May 19, 1978.*

The installation has a 1,000,000 gallon No.2 fuel oil tank constructed December 15, 1973. However, No.2 fuel oil is not considered a petroleum liquid for this rule by definition, and the rule was not placed in the permit.

MACT Applicability

40 CFR part 63, subpart B, *Requirements for Control Technology Determinations for Major Sources in Accordance with Clean Air Act Sections 112(g) and 112(j)*

Subpart B applies to any owner or operator who constructs or reconstructs a stationary source or group of stationary sources which is located within a contiguous area and under common control and is a major source of hazardous air pollutants (i.e., emits or has the potential to emit 10 tons per year of any HAP or 25 tons per year of any combination of HAP). However, the requirements of 40 CFR part 63, subpart ZZZZ have been signed, therefore the installation is not subject to the requirements of 40 CFR part 63, subpart B.

40 CFR part 63, subpart ZZZZ, *National Emission Standards for Hazardous Air pollutants for Stationary Reciprocating Internal Combustion Engines (RICE)*

Compression ignition stationary engines, existing prior to December 19, 2002, do not have to meet the requirements of this subpart or of subpart A of this part. No initial notification is necessary. (§63.6590(b)(3))

NESHAP Applicability

40 CFR part 61, subpart M, *National Emission Standard for Asbestos*

Subpart M applies to the installation because of the renovation and demolition parts of the subpart which makes the subpart applicable to all sources. The rule is included as a core permit requirement.

Compliance Assurance Monitoring (CAM) Applicability

40 CFR part 64, *Compliance Assurance Monitoring* is not applicable to the installation because control devices are not used to comply with the requirements of 10 CSR 10-6.260, *Restriction of Emission of Sulfur Compounds*.

Other Regulatory Determinations

10 CSR 10-6.260, *Restriction of Emission of Sulfur Compounds*

This rule is applicable to all the engines at the installation. The calculations were done on the worst case basis of all engines combusting only fuel oil at their maximum rate. Under this condition the engines are easily in compliance combusting No.2 fuel oil. The primary fuel for the engines is approximately 95% pipeline grade natural gas and 5% No. 2 fuel oil. As an alternate scenario, only No. 2 fuel oil is used when there is a curtailment of pipeline grade natural gas.

Calculations

10-6.260

SO₂ = 2000 ppm for engines No. 6-12 and 500 ppm for engines 13 and 14.

H₂SO₄ = 70 milligram/cubic meter for engines No. 6 – 12 and 35 mg/M³ for engines 13 and 14

MHDR for all engines on fuel oil only = 2480 gallons/hr, assume 0.5% sulfur in fuel oil

$\text{SO}_2 = 2480 \times 7.1 \text{ lb/gal} \times 0.005 \times 2 = 176.08 \text{ lb SO}_2/\text{hr}$, Stack flow = 387,896 acfm at ave temp = 155.5 °F

$\text{SO}_2 \text{ ppm} = 2.935 \text{ lb SO}_2/\text{min} \times 10^6 \times 384/64 \times \text{min}/387896 \text{ acfm} \times 615.5 \text{ }^\circ\text{R}/528 \text{ }^\circ\text{R} = 52.9 \text{ ppm}$

H₂SO₄ is assumed to be formed from 1 to 3 % of the sulfur. (AP 41, Section 1-3)

$2.935 \text{ lb SO}_2/\text{min} \times 0.02 \times 98/64 \times 453600 \text{ mg/lb} \times \text{min}/387,896 \text{ acf} \times 35.3 \text{ cf/M}^3 = 3.71 \text{ mg H}_2\text{SO}_4/\text{M}^3$

Ambient Impact Sulfur Dioxide Modeling

Modeling done at 176.1 lbs SO₂ per hour

Averaging Time	NAAQS Limit ($\mu\text{g}/\text{m}^3$)	Estimated Ambient Impact ($\mu\text{g}/\text{m}^3$)
3-hour	1300	241.4
24-hour	365	107.3
Annual	80	21.5

Other Regulations Not Cited in the Operating Permit or the Above Statement of Basis

Any regulation which is not specifically listed in either the Operating Permit or in the above Statement of Basis does not appear, based on this review, to be an applicable requirement for this installation for one or more of the following reasons:

1. The specific pollutant regulated by that rule is not emitted by the installation;
2. The installation is not in the source category regulated by that rule;
3. The installation is not in the county or specific area that is regulated under the authority of that rule;
4. The installation does not contain the type of emission unit which is regulated by that rule;
5. The rule is only for administrative purposes.

Should a later determination conclude that the installation is subject to one or more of the regulations cited in this Statement of Basis or other regulations which were not cited, the installation shall determine and demonstrate, to the APCP's satisfaction, the installation's compliance with that regulation(s). If the installation is not in compliance with a regulation which was not previously cited, the installation shall submit to the APCP a schedule for achieving compliance for that regulation(s).

Prepared by:

James O. Hill
Environmental Engineer